



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/556,280	04/24/2000	Henry F. McInerney	L0532/7010	7997

7590 06/06/2003

Neil P Ferraro
Wolf Greenfield & Sacks P C
600 Atlantic Avenue
Boston, MA 02210

EXAMINER

ROSENBERGER, RICHARD A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/556,280

Applicant(s)

MCINERNEY ET AL.

Examiner

Richard A Rosenberger

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 March 2002 and 17 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 12-23 and 86-168 is/are pending in the application.
- 4a) Of the above claim(s) 125-168 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 12-23 and 86-124 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 19.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

1. Newly submitted claims 125-168 are directed to an invention that is independent or distinct from the invention originally elected for the following reasons.

A restriction requirement was made in the office action mailed 13 June 2002. In response the invention claimed in claims 12-23 was elected without traverse for prosecution in this application. An action on the merits was prepared on those claims in the office action mailed 1 November 2002.

The invention elected in response to the original election, as defined in claim 12, is a detection device comprising a video mode detector with means to detect and display an image of at least a portion of the object being authenticated and a snapshot mode detector for detecting and displaying data relating to light emission or absorption of a light sensitive compound in a mark on the object being authenticated.

Neither independent claim 125 nor independent claim 149 the video mode, and are thus not directed to the elected invention.

Since applicant has elected for prosecution a device comprising a combination of the video mode and snapshot mode, and has received an action on the merits for this elected invention, claims 125-168 are withdrawn from consideration as being directed to a non-elected invention.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12-23 and 86-124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang (US 5,719,948).

Liang shows using device for detecting a mark on a substrate, the mark including at least one light-sensitive compound that is responsive to at least one predetermined excitation wavelength of light and that, when excited with light having the predetermined wavelength(s) of light emits or absorbs light at at least one predetermined emission or absorption wavelength of light; Liang shows the claimed emission ; note lines 4-7 of the abstract which discusses “graphic images and/or characters [which] have been previously made with fluorescent substances that may be invisible under ordinary visible light, but are rendered detectable by the ultraviolet light.”

The reference teaches a detector which operates in two modes, one capturing a visible light image (a “video mode”) and one capturing an image with the emission or absorption (a “snapshot mode”); “[t]he detector may be capable of detecting both fluorescent images and normal visible images, and the authentication system may

incorporate switching mechanisms to allow multiplexed acquisition of fluorescent and normally visible images” (abstract, lines 17-21).

For the video mode, Liang shows a detector for detecting an image of at least a portion of the substrate; detector 40 can be “a photodiode array [or] a CCD camera” (column 6, lines 42-43), and is disclosed as producing a “conventional image detectable with visual-light illumination” (column 7, lines 59-61). There is a display (indicator 110) which “may display a processed image and/or a raw, unprocessed image of article 25 . . .” (column 10, lines 18-20).

For the snapshot mode, there is a light source (“a source of UV light”, abstract, lines 11-12) for irradiating the substrate. The detector (40) detects light emission of absorption from the mark after the mark has been irradiated to provide data representative of the detected light emission or absorption of the light sensitive compound in the mark; “detector 40 may be [a detector] capable of detecting fluorescent light from tested articles” (column 6, lines 42-44). There is a processor (110) cooperating with the snapshot mode detector, and the display (110) displays the “data” (fluorescent image); indicator 110 “may display a processed image and/or a raw, unprocessed image of . . . indicia 26” (column 10, lines 18-21).

The Liang reference discusses human observation; in the abstract there is a mention of using characters that are “readable by human readers once they are made visible” (abstract, lines 9-10); this “first-order authentication by a human

observer” must include, and in intended to include, a display of both images obtained in both “modes”.

The Liang reference does not teach that the “processor processes the data independent of the pattern of the mark, the processor comparing the data that is independent of the pattern of the mark to a standard and rendering an authentication signal based on the comparison”.

It is known in the art to use fluorescent marks on the object for authenticating articles. Both Falls and Shaw show this. In Falls there is a mark on an object containing two light-sensitive compounds, which are detected and “[s]hould one or both of these selected characteristic radiations 50 and 52 be absent or of different wavelengths, one or both of the respective displays 28 and 30 becomes actuated, indicating a “fail” for the just measured sample 12” (column 4, lines 8-12). Similarly, Shaw teaches a coded mark which is comprises a plurality of different light sensitive (fluorescent) compounds which are detected and compared to a standard to determine wether the object is encoded based on the characteristics of the fluorescence of the marks. In both the processing is not based upon the shape of the mark; Shaw is explicit : “the shape of the symbol marking area is immaterial” (column 1, line 24) and “[i]t is not necessary that the symbol have a particular shape, such as a number or letter” (column 1, line 25-26), although Shaw also discloses that the marks may have a particular shape: “. . . the coding component is also useful with . . . shaped symbols” (column 1, lines 27-28).

It would have been obvious to include this known coding method of product authentication with the system of Liang. This inclusion is not only known in the art, but is compatible with the marks and detection system taught by Liang. Liang teaches the marks may comprise a plurality of fluorescent materials (“[t]he process can also include printing fluorescent graphic images or characters with a multiplicity of fluorescent substances having distinct fluorescent wavelengths”; column 4, lines 43-46) as do the coded marks of Falls and Shaw, and teaches, as do Falls and Shaw, separate detection of the different wavelengths (“[t]he system may also . . . optical filters to select predetermined wavelengths of fluorescent light”; column 4, lines 22-24 - not “filters” and “wavelengths” are both plural). It would have been obvious to include in the system of Liang because it would provide an additional level of security by adding an additional test of authenticity, the coded fluorescence, in a manner already largely provided for by the system of Liang.

Liang uses a computer as the processing means; having the processing means perform the processing for recognizing the code as taught by Falls and Shaw, using, as in standard practice with such computers, appropriate memory in the computer to store the program and data in digital form. The Liang reference discusses storing the images obtained in digital form in computer memory (column 12, lines 44-49). If a permanent record is desired of the test, it would have been obvious to create one using film or the like to do so. Time and date stamping is a common practice, well known in the art.

The Liang reference teaches the light may be a "strobe lamp" (column 5, line 39), which is a type of flash. Other types of flash may be used as it is the provision of suitable illumination, and not the particular means to supply it, that is of functional importance.

The Liang reference teaches that "[f]or some applications it is desirable to insert other optical filters 50 (not shown) into illumination portions 15 of optical path between sources 10 and/or 20 and beam splitter 30, to select portions of the UV and/or visible/IR spectra with which to illuminate article 25" (column 5, lines 63 through column 6, line 1); selecting the filter to provide the wavelength appropriate for the particular mark would have been obvious.

Touch screens are known manners of entering data and commands into computers and computer controlled systems and it would have been obvious to use this known technique. The particular manner in which the two images are displayed, both at the same time on a split screen, alternately, in color, etc., is a matter of design choice well within the ordinary skill of those in the art.

All three references teach the use of fluorescent markers, with the functional characteristic being the fluorescence, not the particular fluorescent material or particular excitation or emission wavelength; all that the references require for their disclosed function is that the fluorescence be emitted and detectable separately from each other. Those in the art would be able to choose appropriate fluorescent materials and wavelengths among those materials known to be

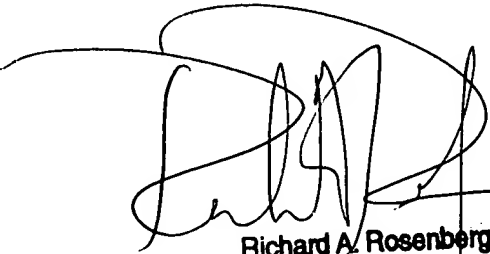
available. Note that Falls specifically discloses the use of a material that fluoresces in the infrared range (column 3, lines 49-51), and Shaw notes infrared emission is possible (column 2, line 67), teaching that infrared emitting marks are within the scope of the knowledge of those in the art.

4. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 308-7722.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (703) 308-4804. The examiner's normal work schedule is 8:00 to 4:30 eastern time, Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger
29 May 2003



Richard A. Rosenberger
Primary Examiner